

IMPROVED GOLF CLUB FACE FLEXURE CONTROL SYSTEM

ABSTRACT OF THE DISCLOSURE

An improved line of golf clubs tailored to the swing speed of the golfer. The basic principles of the present invention can be applied to a single club, but optimally these principles are applied to a plurality of different club heads designed to the specific speed range of the golfer; namely, 50 to 65 mph, 66 to 80 mph, 81 to 95 mph, 96 to 105 mph, and 106 to 140 mph. Maximum ball exit speed from the club head is achieved from club face deflection in each of these ranges near the maximum at which the face wall reaches its permanent elastic deformation. To achieve these principles, the face wall firstly is designed so that the face wall modulus of elasticity increases from a low modulus for the low swing speed range to progressively higher modula for the higher swing speed ranges. Face modulus can be altered by a variety of a techniques including face wall thinning, material selection and heat treatment or a combination thereof. In each of the swing speed range clubs, the face has a first modulus of elasticity determined by the face itself and after the face deflects to a predetermined value, the face modulus is significantly increased by a secondary wall parallel to and closely spaced behind the face wall. The face wall impacts the secondary wall at a swing speed near the top of the swing speed range for that particular club. That is, in the low speed, 50 to

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